

CLAIMS:

1. A display system (20), comprising:
a light source (21) operable to emit a light;
a display panel (31); and
an optical filter (23) operable to be vibrated,
wherein an emission of the light by said light source (21) propagates along an optical path (OP) extending from said light source (21) through said optical filter (23) to said display panel (31), and
wherein said optical filter (23) is vibrated during the emission of the light by said light source (21).
2. The display system (20) of claim 1, further comprising:
means for vibrating said optical filter (23) as a function of a Fourier waveform.
3. The display system (20) of claim 1, further comprising:
an electro-mechanical wave transducer (24, 40) operable to vibrate said optical filter (23).
4. The display system (20) of claim 3,
wherein said electro-mechanical wave transducer (40) includes a first plate (50) having a first aperture (60); and
wherein said optical filter (23) is embedded with said first aperture (60) of said first plate (50).
5. The display system (20) of claim 4,
wherein said electro-mechanical wave transducer (40) further includes a second plate (51) having a second aperture (61) sequentially arranged with said first aperture (60) in a direction of the propagation of the light through said optical filter (23).
6. The display system (20) of claim 4,
wherein said electro-mechanical wave transducer (40) further includes a transducer unit (80) operable to shift said first plate (50) in an oscillating manner relative to the optical path (OP) thereby vibrate said optical filter (23).

7. The display system (20) of claim 6,
wherein said transducer unit (80) is controlled by a control signal (CS1) having a signal waveform for facilitating a desired illumination of the emitted light on said display panel (31).
8. The display system (20) of claim 1,
wherein a vibrating waveform of said optical filter (23) relative to the optical path (OP) includes at least one of a saw tooth vibrating waveform, a step vibrating waveform, and a block vibrating waveform.
9. The display system (20) of claim 1,
wherein said optical filter (23) is a dichroic filter.
10. The display system (20) of claim 1,
wherein said display panel (31) is one of a deformable mirror display panel or a LCoS display panel.
11. The display system (20) of claim 1,
wherein the display system (20) is one of a projection display system or a direct view display system.
12. A method of operating an illumination system (20) including a light source (21), a display panel (31), and an optical filter (23), the method comprising:
emitting a light from the light source (21);
propagating the emitted light through the optical filter (23) to the display panel (31); and
vibrating the optical filter (23) as the emitted light propagates through the optical filter (23).
13. The method of claim 12,
wherein the optical filter (23) is embedded within an aperture (60) of a plate (50); and
wherein the vibration of the optical filter (23) includes a shifting of the plate (50) relative to the propagation of the emitted light through the optical filter (23).
14. A display system (20), comprising:

a optical filter (23); and
an electro-mechanical wave transducer (24, 40) operable to vibrate said optical filter (23) as light is propagated along an optical path (OP) traversing through said optical filter (23).

15. The display system (20) of claim 14,
wherein said electro-mechanical wave transducer (40) includes means for vibrating said optical filter (23) as a function of a Fourier waveform.

16. The display system (20) of claim 14,
wherein said electro-mechanical wave transducer (40) includes a first plate (50) having a first aperture (60); and
wherein said optical filter (23) is embedded with said first aperture (60) of said first plate (50).

17. The display system (20) of claim 16,
wherein said electro-mechanical wave transducer (40) further includes a second plate (51) having a second aperture (61) sequentially arranged with said first aperture (60) in a direction of the propagation of the light through said optical filter (23).

18. The display system (20) of claim 16,
wherein said electro-mechanical wave transducer (40) further includes a transducer unit (80) operable to shift said first plate (50) in an oscillating manner relative to the optical path (OP) thereby vibrate said optical filter (23).

19. The display system (20) of claim 18,
wherein said transducer unit (80) is controlled by a control signal (CS1) having a signal waveform for facilitating a desired illumination of the emitted light on said display panel (31).

20. The display system (20) of claim 14,
wherein a vibrating waveform of said optical filter (23) relative to the optical path (OP) includes at least one of a saw tooth vibrating waveform, a step vibrating waveform, and a block vibrating waveform.

21. The display system (20) of claim 14,

wherein said optical filter (23) is a dichroic filter.

22. The display system (20) of claim 14,
wherein the display system (20) is one of a projection display system or a direct view display system.